Before the
Federal Communications Commission
Washington DC 20054

In the Matter of	)	
	)	
Inquiry Concerning the Deployment of	)	
Advanced Telecommunications	)	
Capability to All Americans in a Reasonable	)	GN Docket No. 04-54
and Timely Fashion, and Possible Steps	)	
to Accelerate Such Deployment	)	
Pursuant to Section 706 of the	)	
Telecommunications Act of 1996	)	

NOTICE OF INQUIRY

Adopted: March 11, 2004 **Released:** March 17, 2004

Comment Date: **30 days from publication in the Federal Register**
Reply Comment Date: **45 days from publication in the Federal Register**

By the Commission: Chairman Powell and Commissioners Abernathy, Copps, and Adelstein issuing separate statements.

I. INTRODUCTION

1. This Notice of Inquiry (Notice) begins our fourth inquiry under section 706 of the Telecommunications Act of 1996 (the 1996 Act) into "whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion."[1] We seek comment on various market, investment, and technological trends in order for the Commission to analyze and assess whether infrastructure capable of supporting advanced services is being made available to all Americans.

2. In section 706, Congress directed the Commission and the states to encourage the deployment of advanced telecommunications capability to all Americans.[2] In conjunction with this objective, Congress instructed this Commission to conduct regular inquiries concerning the availability of advanced telecommunications capability. In so doing, Congress recognized that the availability of infrastructure capable of transmitting broadband or advanced services was

[1] *See* § 706(b) of the Telecommunications Act of 1996, Pub. L. 104-104, 110 Stat. 56 (1996) (1996 Act), reproduced in the notes under 47 U S C § 157

[2] Congress specified that the term "advanced telecommunications capability" is defined "without regard to any transmission media or technology, as high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology" *See* § 706(c) of the 1996 Act.

critical to the future of our nation.[3] Advanced services already play a vital role, and will continue to do so throughout the 21st century, in the nation's economy and the life of its people. Many U.S. companies, both large and small, now depend on advanced services to run various facets of their businesses, including tracking inventory, monitoring consumer relations, and forecasting product sales. Moreover, advanced services have created new jobs, while enabling skilled employees to work more effectively in their current jobs. Advanced services have also created greater flexibility and opportunity in the workplace, particularly in the increased use of telecommuting by employees who remain connected to their jobs despite distance and other factors.

3. In addition to their benefits to the economy, advanced services have a dramatic impact on everyday citizens. Advanced services improve the educational opportunities of children and adults everywhere. High-speed connections to the Internet allow children in rural areas from Alaska to Florida to access the same information as schoolchildren in urban areas. Moreover, distance learning provides more choices for children and adults to access educational materials of distant learning institutions.

4. Telemedicine networks made possible by advanced services save lives and improve the standard of healthcare in sparsely-populated, rural areas. These services bring the skills and knowledge of specialized doctors and other medical professionals to people that would otherwise have to travel long distances to reach them. Advanced services also permit rural healthcare providers to utilize the latest medical information, which, in turn, improves the general provision of healthcare in areas of the country that have traditionally been underserved.

5. Applications that require advanced telecommunications capability will continue to grow exponentially. Only a few years ago, applications and services that we take for granted today were unheard of by a vast segment of the population. These developments are expected to reduce the cost of communication and to spur innovation and individualization on a previously unthinkable scale. For example, companies are developing services and applications making use of Internet Protocol (IP), including Voice over IP (VoIP), which are delivered over broadband connections. This new communications environment could provide each consumer with a highly customized, low-cost choice of services delivered in the manner of his or her choosing. Therefore, monitoring the progress of deployment of advanced telecommunications platforms and determining if steps can or should be taken to further encourage this growth is one of the Commission's most important duties. We strongly encourage commenters to provide data and new ideas on how to conduct this and future section 706 inquiries. We also invite the Federal-State Joint Conference on Advanced Telecommunications Services (Joint Conference) to submit any information that it deems appropriate into this docket.

II. BACKGROUND

6. The Commission has conducted three inquiries pursuant to section 706 to date, concluding in each proceeding that the deployment of advanced telecommunications capability was reasonable and timely on a general, nationwide basis.[4] In the initial 706 inquiry, the

[3] For purposes of this inquiry, we use the terms "advanced" and "broadband" service interchangeably.

[4] *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, CC Docket No 98-146, Report, 14 FCC Rcd 2398, 2402, 2446-48 (1999) (*First* (continued)

Commission presented a snapshot at the early stages of the deployment of advanced services. The Commission surveyed anecdotal evidence relating to trends in investment in broadband facilities, deployment of facilities that serve the "last mile" to consumers, and demand for broadband.

7. In its second 706 inquiry, the Commission expanded its information collection efforts to gain a more comprehensive understanding of the availability of advanced telecommunications capability. Among other things, the Commission launched a formal data collection program to gather standardized information from providers of advanced telecommunications capability through FCC Form 477.[5] The Commission also convened a Joint Conference, consisting of federal and state regulators, to provide a forum for an ongoing dialogue among the Commission, the states, and regional and local entities regarding the deployment of advanced telecommunications capability.[6] And finally, the Commission undertook a series of in-depth case studies to gain a detailed understanding of how advanced telecommunications capability is being deployed and used in different communities.

8. In its third 706 inquiry, the Commission again examined the advanced services marketplace, using the same framework for information collection and analysis as previous inquiries.[7] In reaching its conclusions, the Commission relied upon standardized information from providers of advanced telecommunications capability derived from FCC Form 477, as well as information gathered from commenters, analysts, and other sources.[8]

9. Aside from its formal 706 inquiries, the Commission has published semi-annual statistical reports every year since 2000, summarizing the FCC Form 477 data relating to high-speed connections.[9] We will shortly seek comment on specific proposals to improve our current

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Report), *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, CC Docket No. 98-146, Second Report, 15 FCC Rcd 20913, 20991-96 (2000) (*Second Report*); *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, CC Docket No. 98-146, Report, 17 FCC Rcd 2844 (2002) (*Third Report*).

[5] *Local Competition and Broadband Reporting*, CC Docket No. 99-301, Report and Order, 15 FCC Rcd 7717 (2000) (*Data Gathering Order*), *recon pending*

[6] The Federal-State Joint Conference on Advanced Services, which is comprised of federal and state representatives, was convened by the Commission on October 8, 1999, to further the vision of section 706 of the 1996 Act. To that end, the Joint Conference has held several field hearings to gather information on the deployment of advanced services, and issued a report regarding the availability and demand for broadband services in the United States. *See Broadband Services in the United States An Analysis of Availability and Demand*, Federal-State Joint Conference on Advanced Services, October 2002 (Joint Conference Report). We invite the Joint Conference to update the record with any information it has gathered since 2002

[7] *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, CC Docket No. 98-146, Third Notice of Inquiry, 16 FCC Rcd 15515 (2001) (*Third NOI*)

[8] *Third Report* at 2846-47

[9] FCC Form 477 collects on a semi-annual basis information relating to the provision of services that deliver an information carrying capability in excess of 200 kbps in at least one direction We have, to date, collected information nine times under this program. The most recently published report, attached as Appendix A to this (continued)

FCC Form 477 data gathering program, including extending that program for five years beyond its currently scheduled sunset in March 2005. While any modifications that we may adopt in response to that Notice will not be in place within the six month time frame for this inquiry, we view that undertaking as a critical effort in our ongoing efforts to monitor the deployment of advanced telecommunications capability.

III. ISSUES FOR INQUIRY

10. At the outset, we solicit information consistent with the framework utilized in past reports: (i) how should we define advanced telecommunications capability? (ii) is advanced telecommunications capability being deployed to all Americans? (iii) is the current level of deployment reasonable and timely? and (iv) what actions, if any, can be taken to accelerate deployment? We intend, however, to extend our analysis beyond the framework of our previous 706 reports to examine additional questions of potential interest to policymakers. In particular, we seek to develop a more rigorous analysis of the availability of advanced telecommunications capability in different market segments and areas of varying densities. Moreover, we seek to develop a better understanding of the economic considerations that support the deployment of advanced telecommunications capability. We hope to analyze available information relating to consumer adoption and usage of services requiring advanced telecommunications capability. We also intend to examine trends in other nations and how our deployment of advanced telecommunications capability affects our role in a global economy. We welcome any additional information that commenters believe would further public understanding and dialogue on these critical issues.

A. What is "Advanced Telecommunications Capability"?

11. We seek comment on how we should define "advanced telecommunications capability" for purposes of this inquiry. Since 1999, the Commission has used the terms "advanced telecommunications capability" as "high-speed, switched, broadband telecommunications capability," but did not specify what speed should be encompassed within these terms.[10] In the past, the Commission used the terms "advanced telecommunications capability" and "advanced services" to describe services and facilities with an upstream (customer-to-provider) and downstream (provider-to-customer) transmission speed of more than 200 kilobits per second (kbps).[11] The Commission also used the term "high-speed" to describe services and facilities with over 200 kbps capability in at least one direction.[12] Given the rapid technological changes in the marketplace, we seek comment on the need to alter the definitional framework utilized in prior inquiries.[13] Has technology or the marketplace evolved such that we

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Notice of Inquiry, presents data as of June 2003. *See High-Speed Services for Internet Access Subscribership as of June 30, 2003* (Ind An and Tech. Div., rel. Dec. 22, 2003) (*June 2003 Statistical Summary*), available at <http://www fcc gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/hspd1203.pdf>.

[10] *See* n 2 *supra.*

[11] *See Third Report*, 17 FCC Rcd at 2850-52, *Second Report*, 15 FCC Rcd at 20919-21; *First Report*, 14 FCC Rcd at 2406-08.

[12] *Id.*

[13] As noted above, the Commission currently collects information about lines that are capable of providing services at 200 kbps in one direction, 200 kbps in both directions, and 2 megabits per second (Mbps) in both directions *See*
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should redefine the term "advanced services" to be speeds higher than 200 kbps in one or both directions? Have consumer expectations with respect to bandwidth needs changed since prior reports? What sources of information currently exist regarding the deployment of advanced telecommunications capability under alternative definitions?[14] We note that we intend to seek comment in a separate proceeding on whether to amend our existing FCC Form 477 reporting program to gather more detailed information about the provision of services at speeds higher than 200 kbps.[15] Are there reasons other than the status of technological development that support modifying the definition? Are any other attributes, besides speed in which a particular quantity of information can be transmitted, relevant to the definition of advanced telecommunications capability?

12. In a report to Congress released after our last 706 inquiry, the General Accounting Office (GAO) recommended that the Commission "should develop a strategy for periodically evaluating whether existing informal and experimental methods of data collection are providing the information needed to monitor the essential characteristics and trends of the Internet backbone market and the potential effects of the convergence of communications services."[16] The GAO also recommended that "if a more formal data collection program is deemed appropriate, [the Commission] should exercise its authority to establish such a program."[17] We seek comment on the GAO's recommendations, and whether our existing methods of data collection relating to the Internet backbone are sufficient.[18]

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Local Competition and Broadband Reporting, CC Docket No. 99-301, Report and Order, 15 FCC Rcd 7717, 7752-7753 (2000) (*Data Gathering Order*).

[14] We recognize that any changes we may adopt in our FCC Form 477 reporting program will not be in place prior to the conclusion of this inquiry, but such modifications could assist us in future 706 inquiries.

[15] In the separate proceeding, we will seek comment on whether facilities-based service providers should report service speeds within specified bandwidth service tiers in order to better quantify the state of broadband infrastructure and high speed service delivery in the United States advanced services marketplace We will also seek specific comment on what, if any, steps should be taken to ensure accuracy and comparable measurement of high speed service amongst various facilities-based broadband service providers.

[16] Report to Subcommittee on Antitrust, Business Rights and Competition, Committee on the Judiciary, U.S Senate, Telecommunications: Characteristics and Competitiveness of the Internet Backbone Market, GAO-02-16, at 29 (October 2001), available at <http://frwebgate.access.gpo.gov/cgi-bin/useftp cgi?IPaddress=162.140 64.21&filename=d0216.pdf&directory=/diskb/wais/data/gao>.

[17] *Id.*

[18] In the *Second Report*, the Commission used the term "backbone" to refer to "long haul communications transport facilities." *See Second Report*, 15 FCC Rcd at 20923-24. In the *Third Report*, the Commission used the term long haul communications transport facilities to refer to high-speed physical transport, that includes, but is not limited to, facilities used to support the Internet backbone. *See Third Report*, 17 FCC Rcd at 2853, n 33. *See also* Letter from Michael K Powell, Federal Communications Commission, to Senator Joseph Lieberman, United States Senate, dated January 11, 2002; Letter from Michael K Powell, Federal Communications Commission, to Congressman Dan Burton, United States House of Representatives, dated January 11, 2002 ("The Commission has directly addressed the Internet backbone market on multiple occasions including the First Section 706 Report to Congress, the MCI / WorldCom merger, the Bell Atlantic / GTE merger, and the MCI / Sprint merger. The FCC has considered the Internet backbone market in developing its ICAIS policy for international meetings ("International Charging Arrangements for Internet Services" involving pressure to impose telecommunications accounting schemes on Internet peering). The Network Reliability and Interoperability Council, an FCC federal advisory committee, has also touched on the issue, recommending that backbones publish their peering policies and developing a white paper on interconnection between Internet backbone. The FCC Office of Plans and Policy has (continued....)

B. Is Advanced Telecommunications Capability Being Deployed to All Americans?

13. We seek comment on whether advanced telecommunications capability is being deployed to all Americans. In particular, we seek comment on three general areas in order to facilitate our analysis: (1) the availability of advanced telecommunications capability and whether it has changed since the *Third Report*; (2) the economics underlying investment in advanced infrastructure and service deployment; and (3) various advances in advanced services technology.

14. Availability. As previously noted, the Commission began gathering data about the provision of high-speed and advanced services to end users in 2000.[19] Our current data collection program requires any facilities-based provider that has at least 250 high-speed service lines or wireless channels in service in a state to report basic information about its service offerings and customers twice yearly.[20] Each filer provides data on the total number of lines or wireless channels by technology (i.e., service provided on coaxial cables, wireline telephone lines, fixed wireless, or satellite). For each "technology subtotal," providers report additional detail concerning the percentage of lines that are connected to residential and small business users, the percentage of lines that provide service at more than 200 kbps in both directions, and the number of lines that provide speeds exceeding 2 Mbps.

15. From this data, we obtain a verifiable count of how much service within specified parameters is being delivered by those service providers that responded. Given the association between subscription and deployment, such data collection provides a means to assess the pace at which advanced telecommunications capabilities are being made available in different parts of the country and across different demographic groups. Moreover, we will shortly propose to revise our current FCC Form 477 to obtain more detailed understanding of the provision of services with greater bandwidth than 200 kbps and the availability of the broadband technologies that have achieved the greatest mass market acceptance to date, cable modems and DSL connections, which should facilitate future 706 inquiries.

16. We recognize that altering our current Form 477 reporting framework could provide additional information that would be useful in analyzing the state of deployment of advanced telecommunications capabilities. Obtaining more detailed information about services at speeds higher than 200 kbps could become a valuable tool to assist us in future section 706 inquiries. At the same time, we encourage commenters in this proceeding to provide us with

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released an OPP Working Paper on the subject entitled *The Digital Handshake. Connecting Internet Backbones* (September 2000) ").

[19] The Commission chose to collect data relating to high-speed services "because we believe that these services are an important stepping stone in the deployment of advanced telecommunications services and that these services may be priced to be particularly attractive to residential customers seeking, for example, high-speed Internet access." *Data Gathering Order*, 15 FCC Rcd at 7731.

[20] We have encouraged facilities-based providers that fall below the threshold in a given state to submit the Form 477 on a voluntary basis. In the Commission's most recent data collection, about 30 entities made voluntary filings, representing 0.05 percent of total reported high-speed lines. *See High-Speed Services for Internet Access Subscribership as of June 30, 2003* (Ind. Anal. and Tech. Div. rel. Dec 22, 2003) (*June 2003 Statistical Summary*), available at <http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/hspd1203.pdf>.

more detailed information about the provision of services today at speeds higher than 200 kbps.

17. We recognize that providers are not currently required to report the number or type of high-speed service subscribers in each zip code, but only to report the zip codes in which they had at least one high-speed service subscriber. As a result, we cannot determine from our data the extent to which high-speed services in a given zip code indicates that high-speed services are widely available, or whether they are restricted to certain types of customers located in limited areas. The zip code data depicts areas where at least one customer receives high-speed services in the last mile to the customer premises. This data provides the Commission with one tool for our analysis of whether advanced telecommunications capability is being made available to all Americans. We also note that we will shortly propose to require providers to indicate which technologies are being used to provide connections in a given zip code, which should enable more accurate mapping in the future of where specific technologies are in use, and we will seek comment on whether to require providers to indicate the number of subscribers in a given zip code.[21]

18. We now have semi-annual data about subscribership to high-speed and advanced services dating from December 1999 through June 2003. These data, contained in Appendix A to this Notice of Inquiry, represent a significant time series for analysis and discussion. Now that we have several years of data, we are particularly interested in analyzing the trends that have developed over time. These data show a continued, steady increase in both residential and small business high-speed lines since our last 706 report.[22] Cable modem and ADSL continue to be the market leading technologies, at present. We request comment on what conclusions we should draw from these data.

19. We welcome additional data from external sources that will enable us to make informed judgments about whether advanced telecommunications capability is being made available to consumers in a reasonable and timely manner. We request objective, empirical data from companies, think tanks, governments, analysts, consumer groups, and others. We especially welcome data organized in ways that will enable us to measure investment, availability, and subscription for different technologies, companies, areas, and types of consumers. Additionally, we seek information relating to the price points and actual speeds at which high-speed and advanced services are being made available to consumers, and information relating to product tiering. We also seek data that would shed additional light on the extent to which consumers have a choice of competing providers of advanced or high-speed services. In addition, we seek comment on whether there are other ways of analyzing our existing FCC Form 477 data.

20 Economics of Network Investment and Service Deployment. In the *Third Report*, the Commission observed that carriers continued to invest in the high-speed and advanced services sector in a substantial way, resulting in increased availability of high-speed and advanced services for consumers across the nation.[23] The Commission took note, however, that

[21] *See supra* para. 15

[22] For purposes of the FCC Form 477, the term "residential" includes "small businesses." Filers are instructed to "classify service provided to customers as residential and small business if they take broadband services normally associated with residential customers." *See Data Gathering Order*, 15 FCC Rcd at 7781

[23] *See Third Report*, 17 FCC Rcd at 2869

investment trends had generally slowed and gone through a period of transition since the *Second Report*.[24] Despite these trends, the Commission concluded that investment in infrastructure for most high-speed and advanced services markets remained strong, and that the market would continue to expand and availability to increase.

21 We seek comment on current investment trends and the extent to which they may reflect the availability of high-speed and advanced services. We seek comment on the relationship between the pace of investment, consumer demand, and general market expectations. We also seek comment on whether providers of high-speed and advanced services have access to sufficient levels of capital to fund infrastructure build-out and whether additional steps should be taken to accelerate deployment.

22 We seek to develop a greater understanding of the economics underlying deployment of advanced telecommunications capability and services that utilize that capability. How do the economics change over time as certain levels of deployment and/or penetration are achieved? Do the economics of deploying advanced telecommunications capability reduce availability in some communities? What role could universal service play in ensuring that deployment is reasonable and timely for all Americans?[25] How do providers differentiate their product among different consumer groups? What strategies, tactics, plans, organization, and operational structures do firms utilize to deliver technology and related services to consumers?

23. We note that some companies offer tiered service schemes, which permit both entry level and more sophisticated, higher bandwidth services to be delivered over the same infrastructure.[26] To what extent could the availability of different product tiers affect penetration in today's marketplace? To what extent should the existence of product tiering affect our assessment of whether advanced telecommunications capability is being deployed on a reasonable and timely basis?

24. Trends in Developing Technologies. In prior reports, the Commission looked

[24] The Commission took note of several reports indicating that the slowdown in investment may have been caused by a variety of factors, including the general economic downturn, over-building by carriers, over-manufacturing by vendors, over-capitalization by financial markets, and unrealistic market expectations by vendors *See id.*, 17 FCC Rcd at 2870

[25] Even though advanced services are not directly supported by federal universal service, "[Commission] policies do not impede the deployment of modern plant capable of providing access to advanced services." *See Federal-State Joint Board on Universal Service, Multi-Association Group (MAG) Plan for Regulation of Interstate Services of Non-Price Cap Incumbent Local Exchange Carriers and Interexchange Carriers*, CC Docket Nos 96-45, 00-256, Fourteenth Report and Order, Twenty Second Order on Reconsideration, 16 FCC Rcd 11244, 1322, paras. 199-200 (2001) ("*Fourteenth Report and Order*"), *recon. pending* ("The public switched telephone network is not a single-use network. Modern network infrastructure can provide access not only to voice services, but also to data, graphics, video, and other services."). *See also Federal-State Joint Board on Universal Service*, Order and Order on Reconsideration, CC Docket No. 96-45, 18 FCC Rcd 15090, 15095, para. 13 (2003) (describing "no barriers" policy).

[26] *See* "Cable Loses Broadband Ground to DSL", Reuters (February 2004), available at http //news.com com/2100-1034-5162225 html; "Falling DSL Prices May Herald a Broadband Sea Change," Broadband Business Report in the HollywoodReporter com (February 2004), available at http://www hollywoodreporter.com/thr/pwc/feature_display.jsp?vnu_content_id=2085432; "Tiers on Time Warner's Pillow," The Street Com, reported in CED Broadband direct at CEDmagazine.com (December 2003), available at http://www cedmagazine com/cedailydirect/1203/cedaily031210 htm#3.

closely at the various technologies currently capable of providing high-speed and advanced services as well as those technologies that are likely to emerge in the near future.[27] In particular, the *Third Report* described in detail several "last mile" technologies of high-speed systems. (1) cable modem service; (2) digital subscriber line (DSL, especially asymmetric DSL or ADSL); (3) other Local Exchange Carrier (LEC)-provided wireline services;[28] (4) terrestrial fixed wireless service; and (5) satellite service.[29] The Commission determined that competition among providers within certain technologies is emerging and that there is potential for several different technological options for providing high-speed and advanced services.

25. We seek comment as to any new developments in this area. Are there new technologies that are now being used to provide high-speed or advanced services, or likely to be used in the near future, such as Wi-Fi or Wi-Max,[30] or broadband over power lines?[31] If so, how widely have these new technologies been deployed and what percentage of customers utilize such services? What is the role of mobile wireless technologies? To what extent may some of these developments improve the speed and range of services offered to consumers? Are these technological developments likely to be particularly beneficial to specific groups of customers, such as rural customers or customers with disabilities? Have there been any other changes in the industry that affect the Commission's conclusions in the *Third Report*?

26. We note that the Commission's Form 477 data collection program captures the marketplace presence of broadband services that utilize new and innovative technologies once consumer up-take of the services reaches a certain level. Our data collection does not, however, directly monitor the development of new technologies with likely, or possible, application to advanced services. Nor does our data collection program directly monitor the development of innovative applications that utilize advanced telecommunications capability. We therefore invite parties to bring to our attention technologies that might be used by current or potential providers to deliver new advanced services to consumers. In addition, we are interested in technologies that might be used directly by consumers, *e.g.*, within the consumer's premises, to lower the cost or difficulty of installing or using advanced services. We also are interested in technologies that

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[27] *See, e.g., Third Report*, 17 FCC Rcd at 2877-2881 For example, Verizon Wireless now appears to offer high-speed mobile data services (300-500 kbps) in Washington, DC and San Diego, CA *See* <http://news vzw com/news/2003/09/pr2003-09-29.html>.

[28] *See Third Report*, 17 FCC Rcd at 2920.

[29] *See Third Report*, 17 FCC Rcd at 2913-2927.

[30] The term Wi-Fi, short for "Wireless-Fidelity," was originally applied to unlicensed wireless devices operating in the 2.4 GHz region of the spectrum in accordance with the Institute of Electrical and Electronics Engineers (IEEE) 802.11(b) standard More recently, the term has also been applied to unlicensed wireless devices operating in the 5 GHz region in accordance with IEEE 802 11(a) The Commission does not require devices operating in either the 2 4 GHz or 5 GHz bands to meet the IEEE standards. The term Wi-Max, short for "Worldwide Interoperability for Microwave Access," refers to the two IEEE 802 16 standards developed for fixed wireless broadband access systems The 802 16a standard is used for systems operating between 2 and 11 GHz, while the 802 16b standard is for systems operating between 10 and 66 GHz Wi-Max systems have a maximum speed of 75 Mbps and a theoretical range of 30 miles under ideal conditions but require a clear line of sight. The specifications cover both the Media Access Control and the physical layers for fixed systems employing a point-to-multipoint architecture

[31] The Commission is examining issues relating to emerging technologies in several ongoing dockets. *See, e g*, *Carrier Current Systems, including Broadband over Power Line Systems, Amendment of Part 15 regarding new requirements and measurement guidelines for Access Broadband over Power Line Systems*, ET Docket Nos. 03-104, 04-37, Notice of Proposed Rulemaking, FCC 04-29 (rel. Feb. 23, 2004).

might enable new broadband applications of interest to consumers.

C. Is Deployment Reasonable and Timely?

27. Once we have gathered information on the deployment of advanced telecommunications capability, section 706 requires that we determine whether such capability is being deployed to all Americans "in a reasonable and timely fashion." We generally seek comment on whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion and ask commenters to describe the empirical basis for their conclusions.

28. In determining whether deployment is reasonable and timely, the Commission examined in the *Second* and *Third Reports* various aspects of the deployment of, and market for, advanced services. In particular, it examined the availability of high-speed and advanced services, focusing both on how it has changed since prior reports and how it was projected to change in the future. Second, it examined investment in the infrastructure to support advanced services. Third, it reviewed trends in the alternatives available to consumers of advanced services, assessing both the number of providers offering service through a particular technology and the different technological options available to consumers. We request comment on whether to modify our analytical framework in this inquiry, and welcome suggestions of additional or alternative criteria. Are there other areas of inquiry that would be informative for the Commission to explore?

29. In the *Third Report*, the Commission specifically considered the availability of advanced services for several groups of consumers, including businesses, residential consumers, rural communities, elementary and secondary schools, individuals living on tribal lands, and persons with disabilities. Should we separately examine these specific categories in this inquiry? Are there other types of consumers or geographic areas, such as insular areas, that are likely to experience broadband deployment at a different pace such that we should also monitor the rate of deployment to those customers and areas?

30 We specifically seek comment on the status of deployment of high-speed and advanced services to consumers living in rural areas. Our data collection shows that subscription to advanced services in sparsely populated zip codes has grown, and the gap in reported lines in service between densely and sparsely populated zip codes has shrunk. For example, in June 2003, 68.5% of the most sparsely populated zip codes had high-speed subscribers, compared to 36.8% two years earlier. Moreover, over the last two years, the gap between the most densely populated zip codes and most sparsely populated zip codes had shrunk from 61.3 percentage points to 30.4 percentage points, largely due to increases in the number of most sparsely populated zip codes with subscribers.[32] What are some of the reasons for this reduction in the gap between the most densely populated and the most sparsely populated zip codes? To what extent is the gap in subscribership among more densely and more sparsely populated areas due to the fact that many smaller providers operating in rural areas may fall below the current reporting threshold for our Form 477 data collection program? Do consumers in rural areas enjoy choices among technologies and tiers of high-speed services comparable to those available to consumers

[32] *Id* In 2003, 98.9% of the most densely populated zip codes reported at least one high-speed subscriber, compared to 98.1% two years earlier.

in urban areas? Are high-speed services available to consumers in rural areas at rates comparable to those rates charged in urban areas?

31. We note that the National Exchange Carrier Association (NECA) recently published a study that concluded that technological advances among small, mostly rural local telephone companies between 2001 and 2003 were greater than expected.[33] In fact, the number of NECA companies currently deploying DSL services increased from 557 in 2001 to 814 in 2003.[34] According to the NECA report, 78.95% of member companies' access lines now are equipped for DSL.[35] NECA concluded that rural telephone companies are meeting the growing consumer demand for advanced services in spite of the hurdles they must overcome, including the lack of economies of scale that large, non-rural companies are afforded.[36] What lessons can be learned from the steps taken by some NECA members to encourage deployment in less-developed areas? Are there steps that the Commission should take that would encourage further deployment in rural areas?

32. We also seek focused comment on the deployment of advanced telecommunications capability to low income individuals. We note that, as of June 2003, 98.5% of the highest income zip codes reported high-speed lines, and 78.3% of the lowest income zip codes reported high-speed lines.[37] By comparison, as of June 2001, 96.4% of the highest income zip codes reported high-speed lines, and 59.1% of the lowest income zip codes reported high-speed lines.[38] As a result, over the last two years, the gap between the highest income zip codes and the lowest income ones shrunk from 37.3 to 20.2 percentage points, primarily due to increases in the number of low-income zip codes with subscribers. Why has the gap between the highest income zip codes and the lowest income zip codes decreased over the past two years? Have any specific developments occurred that account for these changes? To what extent are firms marketing lower priced tiers of services to lower income individuals?

33 In addition, we seek comment on the availability of advanced telecommunications capability to individuals living on tribal lands and in the U.S. territories. In June 2003, high-speed services were available in 86.9% of zip codes that contain tribal territories, up from 71.3% in June 2001.[39] At this time, service providers report high-speed lines in Puerto Rico and the Virgin Islands, but no service providers report high-speed lines in the Pacific Insular Islands.[40] Does the information from our data collection program adequately capture the availability of high-speed or advanced services in these areas? In areas where services are being made

[33] NECA's 2003 Access Market Survey – Fulfilling the Digital Dream: a Report on the Technology of Small and Rural Telephone Companies, prepared by NECA's Technology Planning and Implementation Group (NECA Report) The NECA Report covered 5,400 switches, representing more than 1,100 local telcos and 6.8 million lines in 47 states

[34] NECA Report at 8.

[35] *Id.*

[36] *Id.* at 4, 10.

[37] *June 2003 Statistical Summary* at Table 15

[38] *Id*

[39] *See supra para* 30

[40] *June 2003 Statistical Summary* at 1.

available, are they being deployed to all consumers, or just a limited number of consumers? What types of unique challenges are there to the deployment of advanced services in tribal areas or U.S. territories? Are these challenges similar or distinguishable from those encountered by consumers living in rural areas of the nation? What types of technology are being used to provide advanced services on tribal lands? What types of technology are most widely deployed on tribal lands and why? Are there certain types of technological developments that may be especially promising for future deployment in tribal areas or the U.S. territories?

34. We also seek specific comment on the deployment of advanced telecommunications capability to elementary and secondary schools and classrooms. The U.S. Department of Education publishes on an annual basis variou statistics relating to Internet access in U.S. public schools and classrooms. Among other things, the most recent study documents the steady increase in number of schools with Internet access, and the number of instructional classrooms with Internet access.[41] For instance, in 2002, 99% of public schools had access to the Internet, compared to 14% in 1996.[42] Moreover, in 2002, 92% of public school classrooms had access to the Internet, compared to 14% in 1996. In 2002, 94% of public schools reported using broadband connections for Internet access, compared to 80% in 2000 and 85% in 2001.[43] Do these figures support a conclusion that advanced telecommunications capability is being deployed to elementary and secondary schools and classrooms on a reasonable and timely basis? Are there any other sources of information that would provide insight into whether the deployment of advanced telecommunications services to elementary and secondary schools and classrooms is occurring on a reasonable and timely basis?

35 To what extent do persons with disabilities have access to advanced telecommunications? Have there been recent developments in adaptive technologies that improve the capacity of persons with disabilities to access advanced telecommunications? Does the availability of video relay services through the Telecommunications Relay Service Fund play a role in promoting demand for and access to high-speed services among persons with disabilities? To what extent does income, employment, or other factors among persons with disabilities influence their ability to access advanced or high-speed services? How should the Commission evaluate the "availability" of advanced telecommunications services for persons with disabilities, given the unique challenges that persons with disabilities may encounter in accessing advanced services? Are advanced services being made available to medically underserved rural communities?

D. What Actions Can Accelerate Deployment?

36. Pursuant to the 1996 Act, "the Commission and each State commission ...shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans...by utilizing...price cap regulation, regulatory forbearance,

[41] U S Department of Education, Institute of Education Sciences, Pub. No 2004-001, *Internet Access in U S Public Schools and Classrooms: 1994 – 2002* (October 2003).

[42] *Id* at Figure 1 and page 5.

[43] *Id* at 22, Table 3 For the 2001 and 2002 surveys, broadband connections were defined as including T3/D3, fractional T3, T1/D1, fractional T1, cable modem, and DSL connections. DSL connections were not listed on the 2000 questionnaire

[45] *See* § 706(a) of the 1996 Act.

measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment."[45] The *Third Report* described several examples of these and other activities that the Commission, other governmental entities, private groups and individuals have undertaken to promote competition and speed the deployment of advanced services. These included Commission proceedings to establish a regulatory framework for broadband services,[46] promote investment through increased opportunities for broadband competition,[47] reform our universal service system,[48] and encourage the efficient use of spectrum.[49] We note that the Congressional Budget Office recently published a report that analyzed the development of the residential broadband market to assess whether structural features or regulatory obstacles impede its further rapid growth, and concluded that federal intervention was not warranted at this time.[50] To the extent commenters advocate that we should undertake additional actions to encourage the deployment of advanced telecommunications capability, they should set forth those proposals with specificity.

37. We also note that if we find that advanced telecommunications capability is not being deployed in a reasonable and timely manner, we are to "take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and promoting competition in the telecommunications market." [51] Are there groups of Americans for whom the pace of deployment justifies action under section 706 to remove barriers to infrastructure investment or to promote competition? If so, what would those specific actions entail, and what would the costs and benefits of those actions be?

38. In the *Third Report*, the Commission expressed concern about the difficulty some companies have faced in securing access to the rights-of-way necessary to deploy advanced telecommunications infrastructure in a timely manner.[52] Based on its commitment to ensuring

[46] *Third Report*, 17 FCC Rcd at 2904-2905.

[47] *Id*, 17 FCC Rcd at 2899, 2905

[48] *Id*, 17 FCC Rcd at 2900, 2906.

[49] *Id*, 17 FCC Rcd at 2901, 2906

[50] Congressional Budget Office, *Does the Residential Broadband Market Need Fixing?* (December 2003) ("The number of broadband customers is growing at a rapid pace, and current providers face the prospect of new broadband market entrants and other competitive pressures from converging telecommunications markets. Many of the problems that remain, such as uneven distribution and availability of broadband, are a function of the market's immaturity and not necessarily permanent features ")

[51] *See* § 706(a) of the 1996 Act.

[52] *See Third Report*, 17 FCC Rcd at 2906-7, para. 166. Currently, there are several pending proceedings relating to rights-of-way issues at the Commission. *See Promotion of Competitive Networks in Local Telecommunication Markets*, Notice of Proposed Rulemaking and Notice of Inquiry in WT Docket No. 99-217 and Third Further Notice of Proposed Rulemaking in CC Docket No 96-98, 14 FCC Rcd 12673 (1999), *Comments Sought on City Signal Communications, Inc Petition for Declaratory Ruling Concerning Use of Public Rights of Way for Access to Poles in Cleveland Heights, Ohio Pursuant to Section 253*, CS Docket No. 00-255, Public Notice, 16 FCC Rcd 1415 (2000), *Comments Sought on City Signal Communications, Inc Petition for Declaratory Ruling Concerning Use of Public Rights of Way for Access to Poles in Pepper Pike, Ohio Pursuant to Section 253*, CS Docket No. 00-255, Public Notice, 16 FCC Rcd 1419 (2000); *Pleading Cycle Established for Comments on Petition of ASCENT for Preemption of Montgomery, Alabama Taxation Policy*, CC Docket No. 01-40, Public Notice, 16 FCC Rcd 3653 (2001); *Pleading Cycle Established for Comments on Fiber Technologies Networks, L.L.C. Petition for Preemption Pursuant to Section 253*, WC Docket No 03-37, Public Notice, 18 FCC Rcd 1683 (2003).

that rights-of-way issues are resolved in a fair and expeditious manner, the Commission announced that it intended to explore solutions through a dialogue with industry and state and local colleagues, in order to remove barriers that may hinder investment in infrastructure for advanced or high-speed services. On October 16, 2002, the Commission hosted a public Rights-of-Way Forum.[53] The Rights-of-Way Forum focused on exploring the Commission's role in facilitating discussion, identifying model principles and practices, and developing consensus positions among local authorities, state regulators, and the industry. We invite comment regarding the record developed at the Commission's Rights-of-Way Forum.

39. We note that several other organizations, such as the National Association of Regulatory Utility Commissioners (NARUC) and the National Telecommunications and Information Administration (NTIA) have also initiated discussions regarding rights-of-way issues. For example, during the July 2002 NARUC conference, a study committee released a white paper that urged the Commission to include a section in the 706 report that discusses barriers to "deployment of broadband networks associated with abusive rights-of-way practices of federal, state and local units of government and steps that need to be taken to abate those practices."[54] The NARUC study committee on rights-of-way issues also recommended the development of a set of national broadband principles and put forth model rights-of-way access rules.[55] In addition, the NTIA launched a States and Local Rights-of-Way Resources Website, which is designed to foster an exchange of ideas to improve the management and use of rights-of-way [56] Further, the Commission's Intergovernmental Advisory Committee, formerly known as the Local State Government Advisory Committee (LSGAC), provides guidance to the Commission on issues of importance to state, local and tribal governments, including public rights-of-way matters. [57]

40 We seek comment on the types of best practices that could help create reliable and reasonable expectations regarding management of the public rights-of-way that may help remove barriers to investment in advanced telecommunications services. We also seek comment on methods of facilitating resolution of rights-of-way disputes. Are the Commission's current rules effective in resolving rights-of-way disputes and promoting competition? We also ask commenters to discuss the distinction between federal and state responsibilities regarding the use of the public rights-of-way. We note that several states have adopted specific rules and regulations concerning the administration of the public rights-of-way.[58] We request commenters to discuss their experiences in states where rights-of-way rules have been enacted. In addition, we seek comment on the types of practices used by municipalities or communities to encourage

[53] *Commission Releases Agenda for Public Forum on Rights-of-Way Issues*, Public Notice, 17 FCC Rcd 19678 (2002).

[54] Promoting Broadband Access Through Public Rights-of-Way and Public Lands, 2002 NARUC Summer Meetings in Portland, Oregon (rel. July 31, 2002) at 38.

[55] *Id.* at 18-24.

[56] *See* National Telecommunications and Information Administration Website, State and Local Rights-of-Way, at <http://www.ntia.doc gov/ntiahome/staterow/statelocalrow.html>

[57] *See FCC Requests Nominations for Membership on Intergovernmental Advisory Committee, formerly known as the Local and State Government Advisory Committee*, Public Notice, 18 FCC Rcd 18071 (2003).

[58] *See, e g*, Wash Rev Code § 35 99 010(3), (8); Kan. Stat. Ann. § 12-2001(h), Ariz. Rev. Stat. § 9-582, Subsec B; Fla. Stat § 337.401(3)(g); N D Cent Code § 49-21-01, para. 16, Minn. R. 7819,4000,4100.

the deployment of advanced telecommunications capabilities. For example, we ask commenters to discuss efforts by municipalities or communities to provide advanced telecommunications capabilities to end-user customers or to aggregate demand to encourage private sector deployment.

E. What are Patterns of Consumer Adoption and Usage of Services Utilizing Advanced Telecommunications Capability?

41. We seek information about how and why consumers, both individuals and businesses, adopt and use services utilizing advanced telecommunications capability. We seek to develop a better understanding of the specific applications and services that utilize advanced platforms. If the application or service existed prior to the advent of advanced infrastructure capable of transmitting information at higher speeds, how has it benefited by the deployment of such infrastructure? To what degree, if any, could these applications and services be improved if advanced infrastructure was more ubiquitous? Are there certain economies of scale that could be achieved if broadband was used by more individuals or businesses? Would the same be true if advanced telecommunications capability was deployed in more places?

42. We also seek information about consumers of advanced services. What types of entities, *e.g.*, businesses or individuals, purchase advanced services? How integral have advanced services become to these consumers? To what degree do businesses and individuals rely on advanced services to conduct business, sell products, or accomplish specific tasks? We also hope to examine how other individuals or businesses that interact with the consumers of advanced services are indirectly affected by the use of advanced services. For example, do customers of businesses that utilize advanced services enjoy lower prices, greater choices, or faster service? Moreover, what applications and services used by such individuals require access to advanced services themselves? We request that commenters not only discuss specific, current services and applications, but possible future ones as well.

F. Does Deployment of Advanced Telecommunications Capability in the United States Impact Our Role in the International Arena?

43. The United States was recently ranked 11th worldwide in broadband use in a recent report by the International Telecommunications Union.[59] According to another study, the number of broadband subscribers per inhabitant is said to be higher in South Korea, Canada, Japan, Iceland, Sweden, Denmark, Belgium, and the Netherlands than in the U.S.[60] We ask parties to comment on the potential reasons for relatively high broadband penetration rates in some foreign nations. To the extent that these factors are different for different countries, we ask that parties identify specific actions (or inactions) taken to promote broadband deployment. It has been reported that several foreign governments provide direct investment in the deployment of advanced services.[61] We note that the European Union is seeking widespread broadband

[59] *ITU Internet Reports Birth of Broadband*, International Telecommunications Union, Geneva, September 2003, p. 1, Figure 1 1, "Broadband penetration rates around the world."

[60] *See Broadband and Telephony Services Over Cable Television Networks,* Organization for Economic Co-operation and Development, Working Party on Telecommunications and Information Services Policies, rel Nov 7, 2003

[61] "Other Nations Zip by USA in High Speed Net Race," Jim Hopkins, USA Today, January 19, 2004, at 2B

access in all of its fifteen member nations by next year.[62] What other factors have contributed to the higher utilization of advanced services in other countries? Are there lessons that we could learn from the experiences of other countries? Based on these experiences, are there actions that the Commission should take to accelerate the deployment of advanced telecommunications capability? Are higher levels of penetration in other nations indicative of broader availability of advanced telecommunications capability? Given that usage of advanced services may be more ubiquitous throughout the populations in a number of countries than in the United States, we wish to understand the factors that have contributed to this apparent discrepancy, including methodological or design flaws in existing studies that may have over- or under-estimated the extent of broadband use in particular countries.

44 How does our deployment of advanced infrastructure vis-à-vis other nations affect the ability of our citizens to participate in a global economy? Are domestic jobs and industries more likely to move to other countries where the advanced services deployment and/or penetration is higher? What effect, if any, do any trends in this area have on international trade and the U.S. economic position in the global economy? Commenters should not only focus on the present impact but also on what the effect will be for the foreseeable future.

IV. PROCEDURAL MATTERS

45. We invite comment on the issues and questions set forth in the Notice contained herein. Pursuant to applicable procedures set forth in sections 1.415 and 1.419 of the Commission's rules,[63] interested parties may file comments on or before 30 days after publication in the Federal Register of this Notice, and reply comments on or before 45 days after publication in the Federal Register of this Notice. All filings should refer to GN Docket No. 04-54. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS) or by filing paper copies.[64]

46 Comments filed through ECFS can be sent as an electronic file via the Internet to <http://www.fcc.gov/e-file/ecfs.html>. Generally, only one copy of an electronic submission must be filed. In completing the transmittal screen, commenters should include their full name, Postal Service mailing address, and the applicable docket number, which in this instance is GN Docket No. 04-54. Parties may also submit an electronic comment by Internet e-mail. To receive filing instructions for e-mail comments, commenters should send an e-mail to ecfs@fcc.gov, and should include the following words in the body of the message: get form <your e-mail address>. A sample form and directions will be sent in reply.

47. Parties that choose to file by paper must file an original and four copies of each filing. Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). The Commission's contractor, Natek, Inc., will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at a new location in downtown Washington, DC. The address is 236 Massachusetts Avenue, NE, Suite

[62] *See "eEurope 2005 An Information Society for All,"* Commission of the European Communities, June 2002, p 2, available at <www europa.eu.int>.

[63] 47 C.F R §§ 1.415, 1.419.

[64] *See* Electronic Filing of Documents in Rulemaking Proceedings, 63 Fed. Reg. 24121 (1998).

110, Washington, DC 20002. The filing hours at this location will be 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building.

48 Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743. U.S. Postal Service first-class mail, Express Mail, and Priority Mail should be addressed to 445 12th Street, SW, Washington, D.C. 20554. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

If you are sending this type of document or using this delivery method...	It should be addressed for delivery to...
Hand-delivered or messenger-delivered paper filings for the Commission's Secretary	236 Massachusetts Avenue, NE, Suite 110, Washington, DC 20002 (8:00 to 7:00 p.m.)
Other messenger-delivered documents, including documents sent by overnight mail (other than United States Postal Service Express Mail and Priority Mail)	9300 East Hampton Drive, Capitol Heights, MD 20743 (8:00 a.m. to 5:30 p.m.)
United States Postal Service first-class mail, Express Mail, and Priority Mail	445 12th Street, SW Washington, DC 20554

49 Parties who choose to file by paper should also submit their comments on diskette. These diskettes, plus one paper copy, should be submitted to: Sheryl Todd, Telecommunications Access Policy Division, Wireline Competition Bureau, Federal Communications, at the filing window at 236 Massachusetts Avenue, N.E., Suite 110, Washington, D.C. 20002. Such a submission should be on a 3.5-inch diskette formatted in an IBM compatible format using Word or compatible software. The diskette should be accompanied by a cover letter and should be submitted in "read only" mode. The diskette should be clearly labeled with the commenter's name, proceeding (including the docket number, in this case GN Docket No. 04-54, type of pleading (comment or reply comment), date of submission, and the name of the electronic file on the diskette. The label should also include the following phrase "Disk Copy - Not an Original." Each diskette should contain only one party's pleadings, preferably in a single electronic file. In addition, commenters must send diskette copies to the Commission's copy contractor, Qualex International, Portals II, 445 12st Street, S.W., Room CYB402, Washington, D.C. 20554 (*see* alternative addresses above for delivery by hand or messenger).

50. Regardless of whether parties choose to file electronically or by paper, parties should also file one copy of any documents filed in this docket with the Commission's copy contractor, Qualex International, Portals II, 445 12th Street S.W., CY-B402, Washington, D.C. 20554 (see alternative addresses above for delivery by hand or messenger) (telephone 202-863-2893; facsimile 202-863-2898) or via e-mail at qualexint@aol.com.

51 The full text of this document is available for public inspection and copying during regular business hours at the FCC Reference Information Center, Portals II, 445 12th Street, SW, Room CY-A257, Washington, DC, 20554. This document may also be purchased from the Commission's duplicating contractor, Qualex International, Portals II, 445 12th Street,

SW, Room CY-B402, Washington, DC, 20554, telephone (202) 863-2893, facsimile (202) 863-2898, or via e-mail qualexint@aol.com.

52. Comments and reply comments must include a short and concise summary of the substantive arguments raised in the pleading. Comments and reply comments must also comply with section 1.49 and all other applicable sections of the Commission's rules [65] We direct all interested parties to include the name of the filing party and the date of the filing on each page of their comments and reply comments. All parties are encouraged to utilize a table of contents, regardless of the length of their submission. We also strongly encourage parties to track the organization set forth in the Notice in order to facilitate our internal review process.

53. We note that there are many other proceedings now underway at the Commission that include issues that could affect a company's, or class of companies' incentive and ability to deploy advanced telecommunications capability. If commenters wish to refer to their filing in another proceeding, they must provide in their comments in this proceeding a complete recitation of the pertinent information and also attach a copy of the filing to which they refer.

54 Subject to the provisions of 47 C.F.R. § 1.1203 concerning "Sunshine Period" prohibitions, this proceeding is exempt from *ex parte* restraints and disclosure requirements, pursuant to 47 C.F.R. § 1.1204(b)(1). Because many of the matters on which we request comment in this Notice may call on parties to disclose proprietary information such as market research and business plans, we suggest that parties consult 47 C.F.R. § 0.459 about the submission of confidential information.

V. FURTHER INFORMATION

55. Alternative formats (computer diskette, large print, audio recording, and Braille) are available to persons with disabilities by contacting Brian Millin at (202) 418-7426 voice, (202) 418-7365 TTY, or bmillin@fcc.gov. This Notice can also be downloaded in Microsoft Word and ASCII formats at http://www.fcc.gov/ccb/universal_service/highcost.

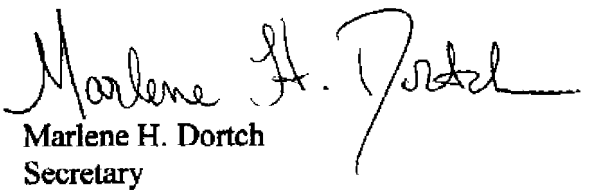
56. For further information, contact Regina M. Brown at (202) 418-7400 in the Telecommunications Access Policy Division, Wireline Competition Bureau.

[65] *See* 47 C.F.R. § 1.49.

VI. ORDERING CLAUSES

57. Accordingly, IT IS ORDERED that, pursuant to section 706 of the Telecommunications Act of 1996, this Notice of Inquiry IS ADOPTED.

FEDERAL COMMUNICATIONS COMMISSION



Marlene H. Dortch
Secretary

STATEMENT OF
CHAIRMAN MICHAEL K. POWELL

Re: *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, Fourth Notice of Inquiry

Today's action is a re-chartering of our efforts to monitor progress in the advanced services market. Every day American entrepreneurs and innovators roll-out new broadband applications. Those applications can work to stimulate demand for advanced telecommunications capabilities and broadband connections. As these applications evolve, so too should our 706 proceeding.

When we issued our last report under section 706 of the Telecommunications Act, I said that we should strive for more specific data that will allow us to better analyze precisely where operators are deploying broadband services. In this NOI and related data gathering improvement proceedings, we seek comment on how we can improve upon our current zip-code-based approach without swamping innovative new service providers in paperwork. While everyone wants more detailed reports, we should stop short of any measures that would force operators to move dollars from real-world facilities-based investment into dollars for regulatory paperwork. I believe my colleagues and I can work together to strike the right cost-benefit balance. At the very least, asking the right questions now will help us improve our reporting process and, ultimately, improve Americans' access to increasingly important advanced-communications capabilities.

STATEMENT OF COMMISSIONER KATHLEEN Q. ABERNATHY

Re: *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996,* Fourth Notice of Inquiry

I am pleased that the Commission is initiating this fourth inquiry on the deployment of broadband infrastructure As I have often stated, this Commission has no higher priority than facilitating the deployment of broadband networks. In the past few years, we have taken important strides in furtherance of this goal. And we are seeing concrete results, as broadband build-out continues at a rapid pace and subscription rates continue their brisk ascent. In the wireline sector, for example, our decision to refrain from mandating the unbundling of broadband loops is helping spur increased investment in fiber networks. Our preservation of a pro-investment framework for cable broadband has been another success story. Our efforts in the wireless arena also have been significant. In particular, our identification of additional spectrum for 3G applications and Wi-Fi, our promotion of flexible uses of spectrum in existing bands, and our development of secondary markets to facilitate spectrum leasing will help deliver broadband services to more Americans. Moreover, our improvements to the satellite licensing process and our efforts to promote nascent technologies such as ultra wideband and broadband over powerline will further this core statutory objective.

This inquiry regarding the timeliness of broadband deployment will help identify whether there are further steps we can take. In particular, we need to assess the extent to which rural areas are benefiting from broadband deployment and what actions would further accelerate investment. I am pleased that we are seeking comment on whether other areas and groups, such as tribal lands and persons with disabilities, are underserved. I also support our focus on ways to improve our data collection so that we can perform a more refined analysis. At the same time, we will need to weigh the benefits of obtaining more granular data against potential regulatory burdens imposed on the entities that file the reports. I look forward to examining the record in this proceeding and working with my colleagues on ways to remove any remaining barriers to broadband deployment.

STATEMENT OF COMMISSIONER MICHAEL J. COPPS

Re *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, Fourth Notice of Inquiry

I will spare you another iteration of my broadband thoughts because most of you have heard me talk about how I believe broadband is the central infrastructure challenge facing this generation. High capacity networks are to the Twenty-first century what the roads and canals and railroads were to the Nineteenth and highways and telecommunications were to the Twentieth. Our future will be driven by how quickly and how well we build out broadband connectivity to all our people. Our role here needs to be as proactive as possible and I believe Section 706 gives us wide-ranging authority to both study and act on broadband deployment.

People all around the country are waking up to the economic opportunity that broadband availability provides. A few months ago, I spent time in Cleveland with a coalition devoted to reducing the digital opportunity gap for city residents. They are working with schools and local officials in a project known as OneCleveland. Together they are developing a backbone infrastructure to enhance economic opportunity and education in city neighborhoods. They know that access to broadband is critical to the future of their community and the future of the country and they are doing something about it.

I am pleased that we are beginning our next Section 706 inquiry today. I have been advocating this for some time. Good data is a prerequisite for good policy choices. So I hope our questions here will generate the serious and substantive analysis that the subject merits.

I have had problems—methodological and otherwise—with the approach the Commission took in the past with this inquiry. I thought our questions were not sufficiently probing and our conclusions were not supported by the facts. We all applaud the build out of broadband, but being number 11 in the world doesn't indicate to me that our deployment is either reasonable or timely. Other countries are getting a lot more capacity to a lot more people at a lot lower cost than we are. If this isn't a call to action, I don't know what is.

So, for starters, we need to engage stakeholders of all stripes—from community organizations like the ones I met with in Cleveland to carriers large and small; from equipment manufacturers to state and local governments; from entrepreneurs with innovative ideas to experts on the economics of network development. We need to dig deep, beyond cursory zip code data and outdated 200 kilobit standards for advanced service. We have to figure out who is being left behind and why and then articulate a plan to fill in the deployment gaps we identify. This task is not small. But I am optimistic that today's inquiry is a first step in what must be a broad and substantial effort.

I want to thank the Bureau for accommodating some of the concerns I have expressed in the past and for broadening and deepening the inquiry. I look forward to our putting the record to good and productive use to ensure that no American is left behind in the broadband revolution.

acknowledged limitations to its data collection effort, and I wish that we had addressed those issues in time for us to benefit from more granular and detailed data.

Finally, I believe that federal policies, such as universal service or video relay service, can play a vital role by increasing access to and encouraging demand for broadband services. Many of these programs are at issue in other proceedings before this Commission, so I encourage commenters to discuss the role of these programs in promoting the availability and use of broadband.

STATEMENT OF COMMISSIONER JONATHAN S. ADELSTEIN

Re: *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, Fourth Notice of Inquiry

I am pleased to support this Notice opening an inquiry into the status of broadband deployment. Congress directed this Commission to ensure that all Americans have reasonable and timely access to advanced telecommunications capability, such as broadband services, and this effort is of critical importance to the health of our economy and our quality of life.

Given the universally acknowledged significance of broadband services, I wish that we had started this inquiry sooner. Section 706 directs this Commission to conduct regular inquiries concerning the availability of broadband services. It's been over two years since we completed our last inquiry and the market for broadband service is evolving rapidly and dynamically. Parties may differ about the need for and shape of a national broadband policy, but given the global economy, we must face up to what is happening in the real world.

While we have delayed our own report card, there are warning signs being raised from other sources. The U.S. was recently ranked 11th worldwide in broadband penetration in a report by the International Telecommunications Union. I am glad that this Notice explores what lessons we can learn from those nations that may be deploying broadband more quickly.

This Notice also asks fundamental questions about broadband deployment to consumers in rural areas, persons with disabilities, and Native Americans. The record we develop in this proceeding should improve our understanding of the challenges of providing broadband to these consumers, and on the unique opportunities that broadband services can bring.

As the first person from South Dakota to serve as a Commissioner at the FCC, I know firsthand how important broadband services are to rural communities. Ensuring access to hard-to-serve areas of America is vital to their economic viability. Broadband gives businesses in these areas the tools they need to compete across the globe. By giving rural consumers access to telemedicine and distance learning, not to mention the vast array and ever growing resources available through the Internet, we give rural residents and their children the same opportunities that others enjoy. There are many success stories in providing broadband to these consumers, and I encourage commenters to help us understand the secrets to their success.

I am also pleased that this item asks questions about our definition of "advanced telecommunications capability." In past reports, we have considered services that deliver transmission speeds of at 200 kbps as broadband, a definition we adopted in 1999. Five years later, it appears that many of the most promising applications require considerably greater capacity It is important that we look closely at the capabilities that are currently available to consumers. We also acknowledge in this Notice our intention to revise our formal broadband data gathering program, but concede that we have not started this effort in time for us to use any more comprehensive data collected for this report. In the past, the Commission has